Deerns

EQUINIX

EQUINIX

ML11x

Electrical Lighting System

Calculation Report

Job Number	250202		
Revision	R01	*Author*	DCO/GSC
Date	09/04/2025	*Approved*	COS

This document is designed for two-side printing.

R01	09/04/2025	DCO/GSC	Sottomissione pratica VIA
Rev	**Date**	**Author**	**Purpose of Issue**

Document History

1 INTRODUCTION

1.1 Project scope

This electrical lighting calculation to the Equinix ML11x Data Centre building in Settimo Milanese, Milan (Italy).

1.2 Referenced documents

The following documents shall be read in conjunction with the Electrical Specification:

- BOD basis of design
- Stage 4 documents prepared by the Architects, Bryden Wood Technology (BWT)
- Stage 4 documents prepared by the MEP Engineer, Deerns Italia (DRN)
- LEED Strategy report, DRN
- Fire Strategy report, DRN
- Access and Maintenance Strategy report prepared by the Design Team, BWT and DRN
- Design Risk Assessment
- Any other consultant's information

.

1.3 Illumination levels

Illumination levels shall be accordance with the below table. The illumination values indicated are average maintained illuminance figures, and shall be varied as appropriate, in order to highlight a particular hazard, access way, equipment or sign etc.

All luminaires' supports must be calculated and installed in order to fully comply the seismic requirement as indicated in the dedicated paragraph.

.

Plantroom / Switchrooms	200	0,6	0
NIR/NER/Server Floor	350 lux (horizontal) 300 (cab vertical)	0,6	0
Office / Control Room Areas	350-400 lux	0,8	750
Toilets	200 lux	0,6	0
Corridors / Stairs / Storage / Riser	150 lux	0,6	0
Datahall	350 / 500 lux	0,8	0 / 900
Customer Lounge / Lift Lobbies / Rooftop Circulation	200 lux	0,6	0

Normal service lighting systems shall be installed to meet the guidelines and criteria of the Chartered Institute of Building Services Engineers Code for Interior Lighting and UNI EN 12464-1. The CIBSE Lighting Guides shall be followed wherever they are relevant.

Lighting fixtures shall be installed accordingly to heights indicated in calculation report and with following table.

Emergency lighting systems shall be installed to meet the guidelines and criteria of standard UNI EN 1838:2013. The lamps with the emergency battery kit must comply with CEI EN IEC 60598-2-22:2023.

Brands and models are only indicative to ensure the required levels of illumination.

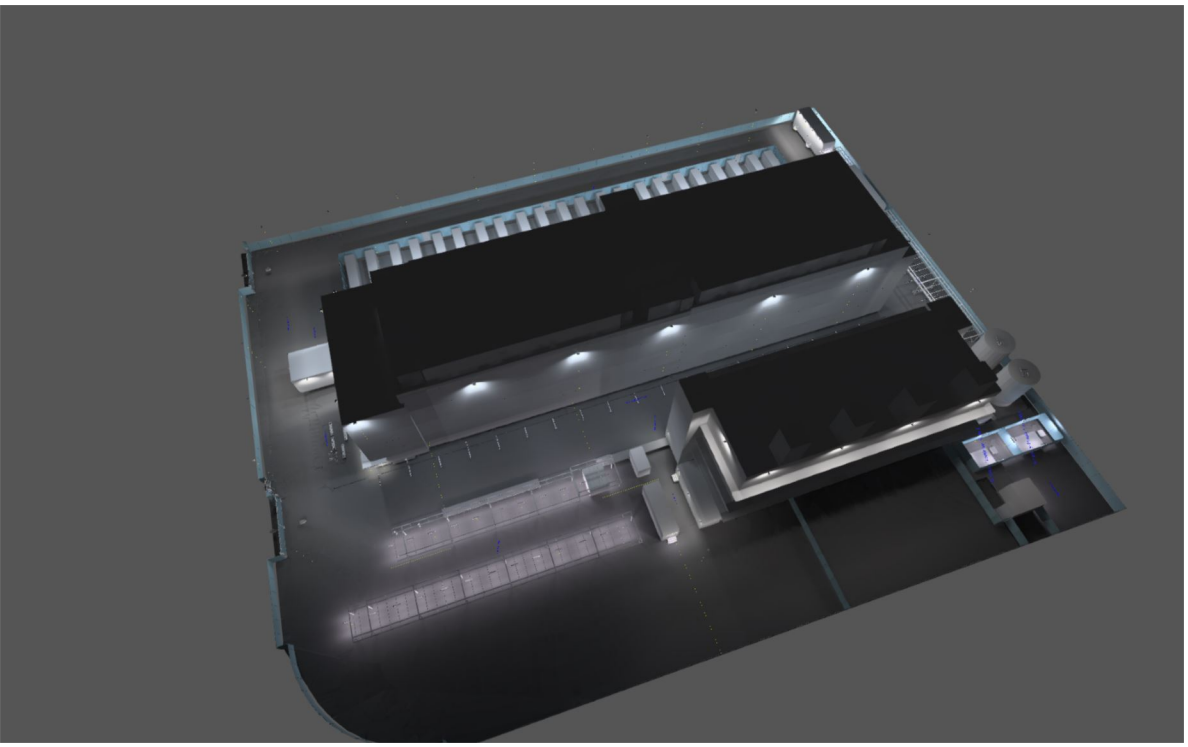
Note for ML11x Building Roof

Since the technical rooms on the roof of the main ML11x building are similar to the technical rooms inside the building (adjacent to the data halls), the validity of the results is the same. Therefore, the calculations for the technical rooms on the roof of the ML11 building will not be repeated.

1.4 Lighting Calculations

1.4.1 External Area

Date 09/04/2025

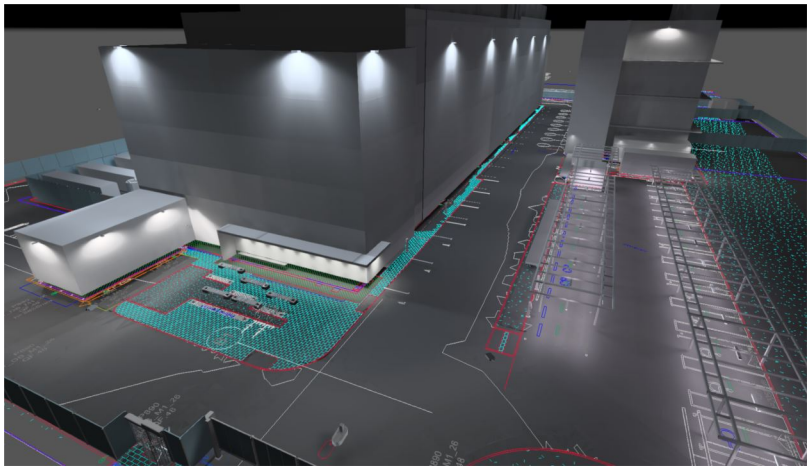


ML11x - Landscape Lighting Calculations

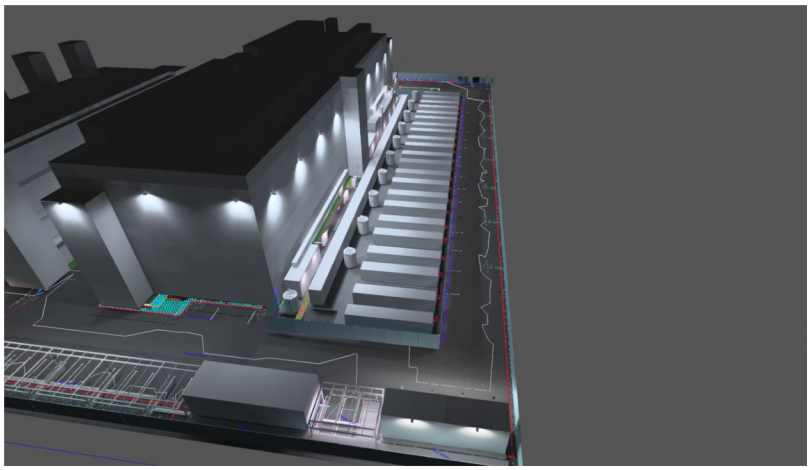
Created with DIALux

Images

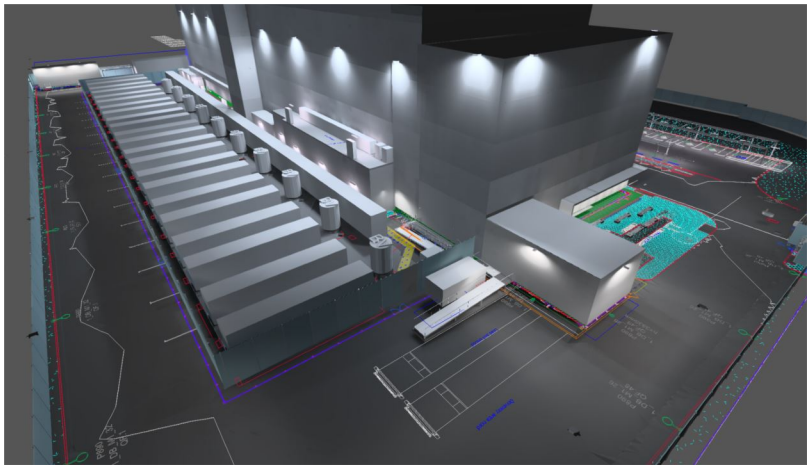
Picture 1



Picture 2

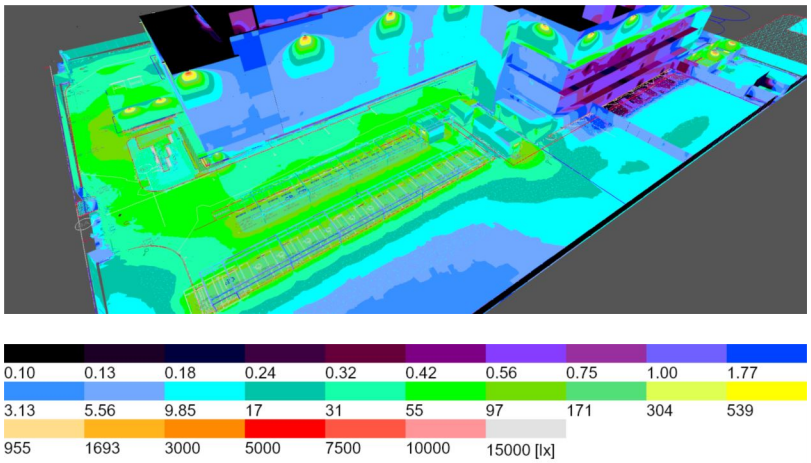


Picture 3

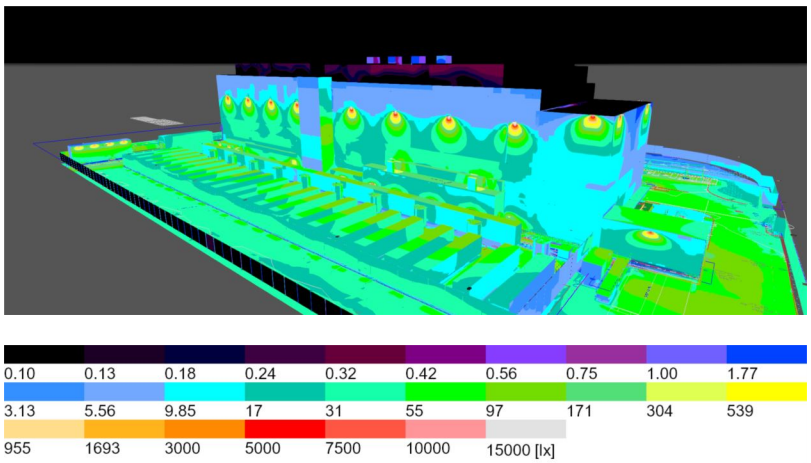


Images

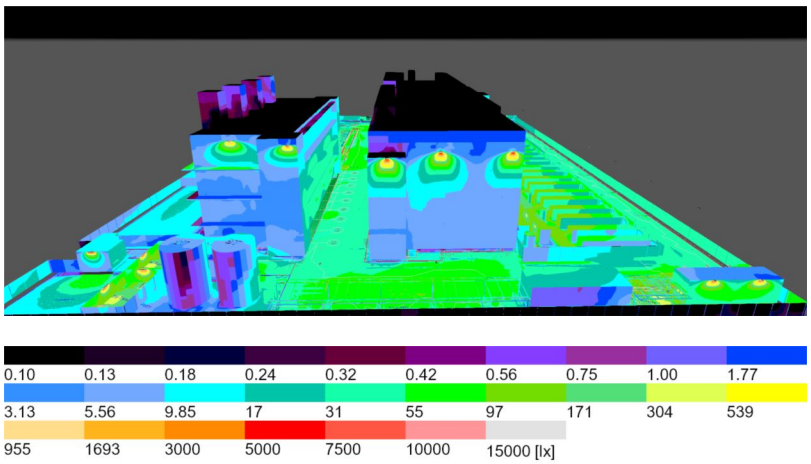
Picture 4



Picture 5



Picture 6



Luminaire list

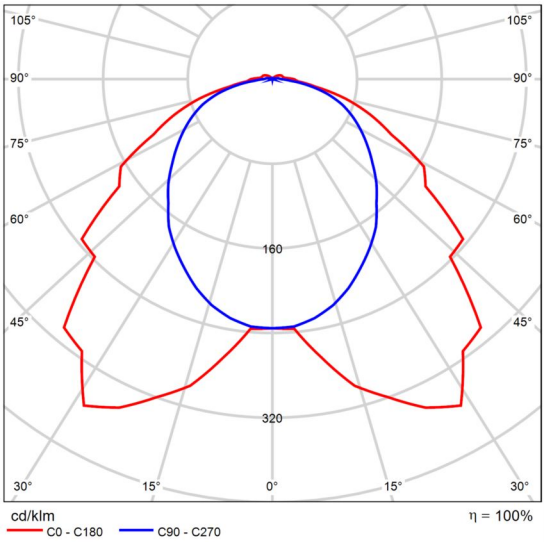
Φ_{total}	P_{total}	Luminous efficacy	$\Phi_{Emergency\ lighting}$	$P_{Emergency\ lighting}$
1812000 lm	13765.8 W	131.6 lm/W	8130 lm	56.0 W

pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
2	3F Filippi S.p.A.	58551	3F Linda LED 1x24W DALI L1270	28.0 W	4065 lm	145.2 lm/W
				28.0 W	4065 lm (100 %)	–
52	3F Filippi S.p.A.	58552	3F Linda LED 2x24W DALI L1270	54.5 W	7911 lm	145.2 lm/W
7	Disano Illuminazione S.p.A	414850-00	1998 Mini Rodio - COB asymmetric 4000K CRI 80 39W CLD Graphite	39.0 W	6060 lm	155.4 lm/W
12	EAE		3158643 PRP 270Z 40SC00 AS 33K3	265.2 W	33230 lm	125.3 lm/W
8	EAE		3264003 PRE 536Z 40CM00 AS 69K0 MP	538.8 W	68776 lm	127.6 lm/W
34	iGuzzini	P890	Platea Pro - VANO - Optical only	86.5 W	11160 lm	129.0 lm/W
10	iGuzzini	QF83	Easy - UGR<19 - ø153mm - QF83.39 - Ø 163 mm - neutral white - DALI - UGR<19 - 16.9W 2021lm - 4000K - CRI 90 - White/Aluminium	16.9 W	2020 lm	119.6 lm/W

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 1x24W DALI L1270

Article No.	58551
P	28.0 W
$P_{Emergency\ lighting}$	28.0 W
Φ_{Lamp}	4065 lm
$\Phi_{Luminaire}$	4065 lm
$\Phi_{Emergency\ lighting}$	4065 lm
η	100.00 %
Luminous efficacy	145.2 lm/W
CCT	4000 K
CRI	80
ELF	100 %



Polar LDC

Upward Light Output Ratio

ILLUMINOTECHNICAL
Luminous efficiency 100% (DLOR 97%, ULOR 3%).
Initial luminous flux of the luminaire 4065 lm.
Controlled symmetric distribution.
Installation Interdistance Transv.D = 1.77 x hu - Long.D = 1.17 x hu.
Tabular UGR (CIE 117 - 4H-8H; S=0.25H; 70/50/20): RUG 22 - 22.9.
Beam angle: 109° - 64°.
Luminous efficacy 145 lm/W.
Lifetime (L93/B10): 30000 h. (tq+25°C)
Lifetime (L90/B10): 50000 h. (tq+25°C)
Lifetime (L85/B10): 80000 h. (tq+25°C)
Lifetime (L80/B10): 100000 h. (tq+25°C)
Lifetime (L85/B10): 50000 h. (tq+35°C)
Sudden decreased luminous flux after 50000 hours: 0% (C0).
Photobiological safety in compliance with IEC/TR 62778: RG0 risk exempt, (IEC 62471).

Glare evaluation according to UGR

ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	19.2	20.5	19.5	20.8	21.2	19.1	20.4	19.4	20.7	21.0
	3H	20.3	21.5	20.6	21.8	22.2	20.5	21.7	20.9	22.1	22.4
	4H	20.7	21.8	21.1	22.2	22.6	21.1	22.3	21.5	22.6	23.0
	6H	20.9	22.0	21.3	22.4	22.7	21.6	22.7	22.0	23.0	23.4
	8H	21.0	22.0	21.4	22.4	22.8	21.7	22.8	22.1	23.1	23.5
	12H	21.0	22.0	21.4	22.4	22.8	21.8	22.8	22.2	23.2	23.6
4H	2H	19.7	20.9	20.1	21.3	21.6	19.7	20.8	20.1	21.2	21.5
	3H	21.0	22.0	21.4	22.4	22.8	21.3	22.3	21.7	22.7	23.1
	4H	21.5	22.4	22.0	22.8	23.3	22.0	22.9	22.5	23.3	23.8
	6H	21.8	22.6	22.3	23.1	23.5	22.6	23.4	23.1	23.8	24.3
	8H	21.9	22.7	22.4	23.1	23.6	22.8	23.5	23.3	24.0	24.5
	12H	22.0	22.7	22.5	23.1	23.7	23.0	23.6	23.5	24.1	24.6
8H	4H	21.7	22.5	22.2	22.9	23.4	22.2	22.9	22.7	23.4	23.9
	6H	22.2	22.8	22.7	23.3	23.8	22.9	23.5	23.4	24.0	24.5
	8H	22.3	22.9	22.9	23.4	23.9	23.2	23.7	23.7	24.2	24.8
	12H	22.5	22.9	23.0	23.5	24.0	23.4	23.9	24.0	24.4	25.0
12H	4H	21.7	22.4	22.2	22.9	23.4	22.2	22.9	22.7	23.3	23.8
	6H	22.2	22.8	22.8	23.3	23.8	22.9	23.5	23.5	24.0	24.5
	8H	22.4	22.9	23.0	23.4	24.0	23.3	23.7	23.8	24.2	24.8
Variation of the observer position for the luminaire distances S											
S = 1.0H		+0.2 / -0.3					+0.2 / -0.2				
S = 1.5H		+0.4 / -0.6					+0.6 / -0.7				
S = 2.0H		+0.8 / -1.1					+0.7 / -1.1				
Standard table		BK04					BK06				
Correction summand		4.8					6.3				
Corrected glare indices referring to 4065lm Total luminous flux											

UGR diagram (SHR: 0.25)

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 1x24W DALI L1270

In compliance with IEC/EN 62722-2-1 - IEC/EN 62717 standards.

SOURCE
Linear LED module 24W/840.
Energy efficiency class (UE 2019/2020 - UE 2019/2015): D.
CIE 13.3 Colour rendering index: CRI >80 (R9 <50%).
IES TM-30 Fidelity Index: Rf = 84 Rg = 95.
CCT nominal colour temperature 4000 K.
Colour initial tolerance (MacAdam): SDCM 3.

MECHANICAL
Self-extinguishing V2 polycarbonate housing, injection moulded, RAL 7035 grey.
Ecologic anti-aging injected sealing gasket.
Diffuser in self-extinguishing V2 polycarbonate, photo-engraved interior, UV stabilised, injection moulded with smooth outer surface, tamper-proof opening.
Gear-holder reflector in hot-dip galvanised steel, painted with white polyester base.
Snug fit safety snap-lock clips for diffuser mounting in stainless steel, screwdriver opening.
Fixing brackets in stainless steel.
Possibility for technicians to access the interior of the luminaire.
Luminaire with limited surface temperature. - D - (EN 60598-2-24)
Dimensions: 1270x100 mm, height 100 mm. Weight 2.085 kg.
IP66 protection degree.
Mechanical strength to impacts IK10 (20 joule).
Glow-wire test resistance 850°C.

ELECTRICAL
Halogen Free DALI, PUSH-DIM, electronic wiring 230V-50/60Hz, power factor 0.90 at full load, THD <25%, constant output current, SELV, class I, 1 driver, 1 DALI addresse.
Power of the luminaire 28 W.
ENEC - CE.
SAFE FLICKER: PstLM=<1 and SVM=<0.4 (IEC TR 61547-1 and IEC TR 63158), to ensure a more comfortable and safe light.
Luminaire compliant with EN 60598-2-22 for power supply from a centralised emergency system CPSS (Central Power Supply System), not incorporated in the luminaire - high risk areas excluded. The default power and flux are 100% in AC and 15% in DC.
Ambient temperature from -20°C to +35°C.
Temperature class T6 max 85°C.
Relative humidity UR: <85%.

INSTALLATION
Ceiling / Suspended / Wall.
All accessories dedicated to this product are available on the Catalog and on our website www.3F-Filippi.com.

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 1x24W DALI L1270

APPLICATIONS
Suitable product for food production plants (HACCP), IFS (Food Version 6), BRC (GSFS Food Version 7).
Dry, dusty indoor environments, subject to occasional water splashes.
Virtually shatterproof polycarbonate compatibly with the fumes / atmospheres that compromise the elasticity of plastic materials.
Not suitable for installation on surfaces subject to important vibrations, exposed to weather conditions, on ropes or poles.
Suitable for illumination of public car parks and parking grounds referred to DIN 67528:2018-04.

LIGHT MANAGEMENT
Recommended minimum setting: 10%.
The device, equipped with DALI driver, can be controlled manually with 3F Easy Dim technology or automatically/manually with 3F Smart Dimming technology and/or centralised DALI systems.
In electrical systems without a regulation system (manual or automatic) and DALI bus, a suitable jumper must be made on the DA-DA terminals of the appliance.

WARNING
Fixture not suitable for cold stores with an ambient temperature <0°C and/or relative humidity >85%.
Luminaire designed for disposal/recycling at end-of-life.
Replaceable (LED only) light source by a professional. Replaceable control gear by a professional.

γ	C0°	C90°	C0°- C360°
0°-180°	1448.03	957.06	1452.63
60°-90°	671.90	392.11	690.24

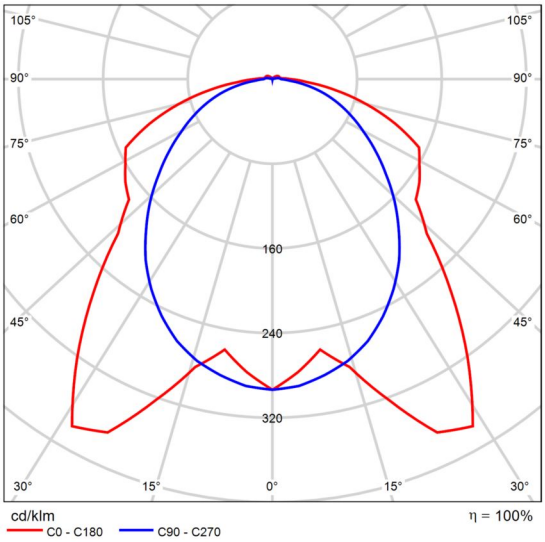
Glare valuation table [cd]

DIALux

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 2x24W DALI L1270

Article No.	58552
P	54.5 W
Φ_{Lamp}	7911 lm
$\Phi_{Luminaire}$	7911 lm
η	100.00 %
Luminous efficacy	145.2 lm/W
CCT	4000 K
CRI	80



Polar LDC

Upward Light Output Ratio

ILLUMINOTECHNICAL
Luminous efficiency 100% (DLOR 97%, ULOR 3%).
Initial luminous flux of the luminaire 7911 lm.
Controlled symmetric distribution.
Installation Interdistance Transv.D = 1.52 x hu - Long.D = 1.17 x hu.
UGR <22 (EN 12464-1).
Luminous efficacy 145 lm/W.
Lifetime (L93/B10): 30000 h. (tq+25°C)
Lifetime (L90/B10): 50000 h. (tq+25°C)
Lifetime (L85/B10): 80000 h. (tq+25°C)
Lifetime (L80/B10): 100000 h. (tq+25°C)
Lifetime (L85/B10): 50000 h. (tq+35°C)
Sudden decreased luminous flux after 50000 hours: 0% (C0).
Photobiological safety in compliance with IEC/TR 62778: RG0 risk exempt, (IEC 62471).
In compliance with IEC/EN 62722-2-1 - IEC/EN 62717 standards.

SOURCE
2 linear LED modules 24W/840.
Energy efficiency class (UE 2019/2020 - UE 2019/2015): D.
CIE 13.3 Colour rendering index: CRI >80 (R9 <50%).
IES TM-30 Fidelity Index: Rf = 84 Rg = 95.

Glare evaluation according to UGR

ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	20.0	21.3	20.3	21.6	21.9	19.8	21.2	20.2	21.5	21.8
	3H	21.8	23.1	22.2	23.4	23.7	21.2	22.4	21.5	22.7	23.0
	4H	22.5	23.7	22.9	24.0	24.4	21.7	22.9	22.1	23.2	23.6
	6H	23.0	24.1	23.4	24.5	24.9	22.1	23.2	22.5	23.6	23.9
	8H	23.2	24.2	23.6	24.6	25.0	22.3	23.3	22.7	23.7	24.1
	12H	23.3	24.3	23.7	24.7	25.1	22.3	23.4	22.8	23.7	24.1
4H	2H	20.6	21.7	20.9	22.1	22.4	20.4	21.6	20.8	21.9	22.3
	3H	22.6	23.6	23.0	24.0	24.4	22.0	23.0	22.4	23.4	23.8
	4H	23.5	24.4	23.9	24.8	25.2	22.7	23.6	23.1	24.0	24.4
	6H	24.1	24.9	24.6	25.3	25.8	23.2	24.0	23.7	24.5	24.9
	8H	24.3	25.0	24.8	25.5	26.0	23.4	24.2	23.9	24.6	25.1
	12H	24.4	25.1	24.9	25.6	26.1	23.6	24.2	24.1	24.7	25.2
8H	4H	23.7	24.5	24.2	24.9	25.4	23.0	23.8	23.5	24.2	24.7
	6H	24.5	25.1	25.0	25.6	26.1	23.7	24.3	24.2	24.8	25.3
	8H	24.8	25.4	25.3	25.9	26.4	24.0	24.5	24.5	25.0	25.6
	12H	25.0	25.5	25.6	26.0	26.6	24.2	24.7	24.8	25.2	25.8
12H	4H	23.7	24.4	24.2	24.9	25.4	23.0	23.7	23.5	24.2	24.7
	6H	24.6	25.1	25.1	25.6	26.2	23.8	24.4	24.3	24.8	25.4
	8H	24.9	25.4	25.5	25.9	26.5	24.1	24.6	24.7	25.1	25.7
Variation of the observer position for the luminaire distances S											
S = 1.0H		+0.2 / -0.2					+0.2 / -0.2				
S = 1.5H		+0.2 / -0.3					+0.6 / -0.6				
S = 2.0H		+0.2 / -0.5					+0.7 / -1.1				
Standard table		BK06					BK06				
Correction summand		7.6					7.1				
Corrected glare indices referring to 7911lm Total luminous flux											

UGR diagram (SHR: 0.25)

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 2x24W DALI L1270

CCT nominal colour temperature 4000 K.
Colour initial tolerance (MacAdam): SDCM 3.

MECHANICAL
Self-extinguishing V2 polycarbonate housing, injection moulded, RAL 7035 grey.
Ecologic anti-aging injected sealing gasket.
Diffuser in self-extinguishing V2 polycarbonate, photo-engraved interior, UV stabilised, injection moulded with smooth outer surface, tamper-proof opening.
Gear-tray reflector unit in hot-galvanised steel, painted in white polyester, fixed to the housing by means of steel rapid devices, hinged opening.
Snug fit safety snap-lock clips for diffuser mounting in stainless steel, screwdriver opening.
Fixing brackets in stainless steel.
Possibility for technicians to access the interior of the luminaire.
Luminaire with limited surface temperature. - D - (EN 60598-2-24)
Dimensions: 1270x160 mm, height 100 mm. Weight 2.76 kg.
IP66 protection degree.
Mechanical strength to impacts IK10 (20 joule).
Glow-wire test resistance 850°C.

ELECTRICAL
Halogen Free DALI electronic wiring 230V-50/60Hz, power factor 0.95 at full load, THD <25%, constant output current, SELV, class I, 1 driver, 1 DALI addresse.
Power of the luminaire 54.5 W.
ENEC - CE.
SAFE FLICKER: PstLM=<1 and SVM=<0.4 (IEC TR 61547-1 and IEC TR 63158), to ensure a more comfortable and safe light.
Luminaire compliant with EN 60598-2-22 for power supply from a centralised emergency system CPSS (Central Power Supply System), not incorporated in the luminaire - high risk areas excluded. The default power and flux are 100% in AC and 15% in DC.
Ambient temperature from -20°C to +35°C.
Temperature class T6 max 85°C.
Relative humidity UR: <85%.

INSTALLATION
Ceiling / Suspended / Wall.
All accessories dedicated to this product are available on the Catalog and on our website www.3F-Filippi.com.

APPLICATIONS
Product suitable for installation in food-production/processing environments (HACCP, IFS, BRC Standard).
Dry, dusty indoor environments, subject to occasional water splashes.

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 2x24W DALI L1270

Virtually shatterproof polycarbonate compatibly with the fumes / atmospheres that compromise the elasticity of plastic materials.
Not suitable for installation on surfaces subject to important vibrations, exposed to weather conditions, on ropes or poles.
Suitable for illumination of public car parks and parking grounds referred to DIN 67528:2018-04.

LIGHT MANAGEMENT
Recommended minimum setting: 10%.
The device, equipped with DALI driver, can be controlled manually with 3F Easy Dim technology or automatically/manually with 3F Smart Dimming technology and/or centralised DALI systems.
In electrical systems without a regulation system (manual or automatic) and DALI bus, a suitable jumper must be made on the DA-DA terminals of the appliance.

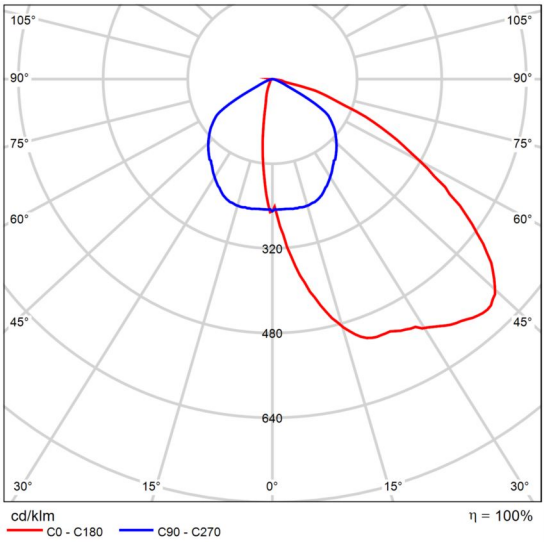
WARNING
Fixture not suitable for cold stores with an ambient temperature <0°C and/or relative humidity >85%.
Luminaire designed for disposal/recycling at end-of-life.
Replaceable (LED only) light source by a professional. Replaceable control gear by a professional.

DIALux

Product data sheet

Disano Illuminazione S.p.A - 1998 Mini Rodio - COB asymmetric 4000K CRI 80 39W CLD Graphite

Article No.	414850-00
P	39.0 W
Φ_{Lamp}	6060 lm
$\Phi_{Luminaire}$	6060 lm
η	100.00 %
Luminous efficacy	155.4 lm/W
CCT	4000 K
CRI	80



Polar LDC

L'apparecchio ha una curva di distribuzione fotometrica con emissione luminosa limitata all'emisfero inferiore (0°–90°). Pertanto, ULOR (rapporto di emissione luminosa verso l'alto) = 0%.

Housing: in die-cast aluminium with cooling fins integrated in the cover.Optics: in 99.95 aluminium with PVD coating, satin finish.Diffuser: tempered glass, 4 mm thick, resistant to thermal shock and impact (UNI EN 12150-1:2001).Coating: pre-treatment of metal surface, polyester powder coating to ensure resistance to corrosion and salt spray fogs, UV stabilised.Special coating: upon request: available with coating tested to withstand corrosion tests in agressive artificial atmospheres (UNI EN ISO 9227) or marine environments (sea front).Heat Sink: the heat sink is designed and made to allow the LEDs to operate at temperatures capable of ensuring excellent performance/output and long service life.Low flicker: luminaire with very low flicker: evenly distributed light for greater visual safety.Photobiological risk: exempt risk group according to EN62471.: EN60598-1. With degree of protection according to EN60529.Equipment: - with galvanised and painted bracket - cable for electrical connection - EN 61547 compliant surge protection - silicone rubber gasket - external screws and bolts in stainless steel.Temperature Chart (Description): -20 °C ÷ +40 °COn request: - protection of up to 10kV. - amber LED (subcode -73 - 2200K) - CLD-D-D (DALI) wiring (subcode -0041) - possibility of central light management or with external presence/light sensors.

1998 - Mini Rodio - COB asimmetrico

Codice: 414850-00

Per quanto riguarda i proiettori, un eccellente risultato tecnologico è stato raggiunto con il nuovo Mini Rodio, che completa la famiglia dei Rodio. Le dimensioni contenute di questo apparecchio consentono di inserirlo nelle architetture o in qualsiasi altro contesto, per un progetto illuminotecnico di alto valore estetico, con le migliori performance tecniche. E' disponibile in molte versioni con lenti simmetriche o asimmetriche ed anche in versione con LED COB.
Le ottime prestazioni di questo proiettore in termini di risparmio energetico ed efficienza luminosa si accompagnano ad una lunga durata di vita pari a 50/80mila ore; inoltre, l'impiego di materiali dotati di protezione IP66 rende Mini Rodio perfettamente idoneo in caso di installazioni esterne.
In sintesi, questi proiettori si caratterizzano per una migliore qualità della luce ed una lunga durata di vita, garantite entrambe da materiali altamente selezionati e dalle più avanzate sorgenti Led.

INFORMAZIONI GENERALI

Articolo	1998 - Mini Rodio - COB asimmetrico
Codice	414850-00

DIMENSIONI E PESO

Lunghezza (mm)	400 mm
Larghezza (mm)	273 mm
Altezza (mm)	70 mm
Peso (Kg)	3 kg

INSTALLAZIONE

Superficie di esposizione al vento (mm)	L 24200 mm², F 80700 mm²

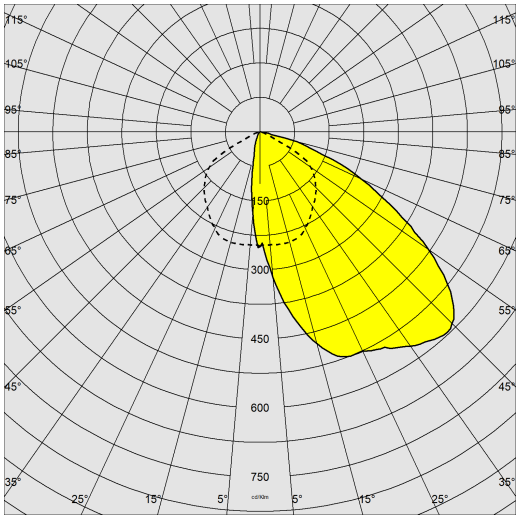
CARATTERISTICHE ELETTRICHE E CONTROLLI

Tipo di tensione	AC
Tensione Min (V)	220 V
Tensione Max (V)	240 V
Frequenza Min (Hz)	50 Hz
Frequenza Max (Hz)	60 Hz
Frequenza (Hz)	50 Hz
Sigla cablaggio	CLD
Fattore di potenza	≥0.9
Classe di isolamento	Classe I
Controllo e Regolazione	Nessuno

Contattare il Centro di consulenza e progettazione per qualsiasi informazione illuminotecnica. Il flusso luminoso uscente riportato indica il flusso luminoso dell'apparecchio con una tolleranza di ±10% rispetto al valore indicato. La potenza assorbita totale non supera il 10% del valore indicato. Le informazioni illuminotecniche possono essere soggette a variazioni e miglioramenti a causa della velocità della loro evoluzione tecnologica. Saturday, March 29, 2025

1998 - Mini Rodio - COB asimmetrico

Codice: 414850-00



DATI FOTOMETRICI

Tipo distribuzione	Asimmetrico
Sorgente luminosa	LED COB
CRI	80
Flusso luminoso (uscente) (lm)	6060 lm
Potenza assorbita (totale) (W)	39 W
CCT	4000 K
Efficienza luminosa (lm/W)	155 lm/W
Low Flicker	apparecchio con Flicker molto contenuto: luce uniforme per una maggior sicurezza visiva.
Mantenimento del flusso luminoso LED	90000 hr, L 80, B 10

CARATTERISTICHE MECCANICHE

Resistenza meccanica agli urti (IK)	IK08
IP	66
Temperatura ambiente - min	-20 °C
Temperatura ambiente - max	40 °C

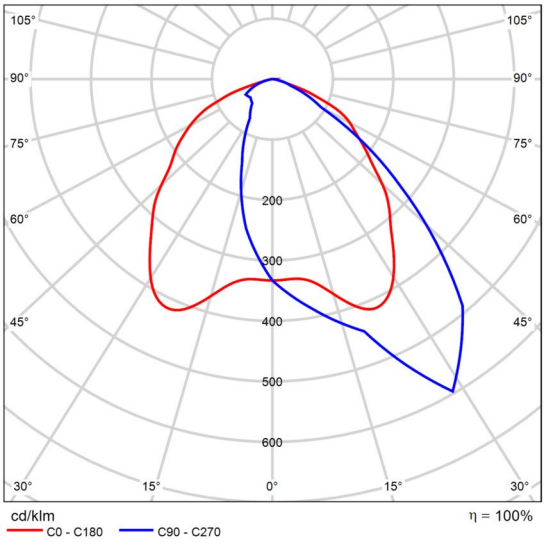
Contattare il Centro di consulenza e progettazione per qualsiasi informazione illuminotecnica. Il flusso luminoso uscente riportato indica il flusso luminoso dell'apparecchio con una tolleranza di ±10% rispetto al valore indicato. La potenza assorbita totale non supera il 10% del valore indicato. Le informazioni illuminotecniche possono essere soggette a variazioni e miglioramenti a causa della velocità della loro evoluzione tecnologica. Saturday, March 29, 2025

DIALux

Product data sheet

EAE - 3158643 PRP 270Z 40SC00 AS 33K3

P	265.2 W
Φ_{Lamp}	33303 lm
$\Phi_{Luminaire}$	33230 lm
η	99.78 %
Luminous efficacy	125.3 lm/W
CCT	4511 K
CRI	73



Polar LDC

L'apparecchio ha una curva di distribuzione fotometrica con emissione luminosa limitata all'emisfero inferiore (0°–90°). Pertanto, ULOR (rapporto di emissione luminosa verso l'alto) = 0%.

PROLIT PLUS

270 W Front and Area LED Lighting Luminaires

Order Code	: 3158643
Product Code	: PRP 270Z 40SC00 AS 33K3

Product Data

Standard Features

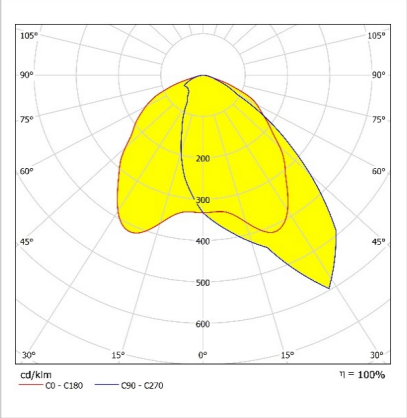
Housing	: Aluminium injection housing
Diffuser	: Tempered glass with serigraphy
Optic	: Asymmetric lens
IP Grade	: IP66
Installation	: Floor Mounted
Light Source	: Power LED
Electronic Control	: On/Off

Optical & Electrical Features

Power Consumption	: 270 W
Final Luminous Flux	: 33303 lm
Efficacy	: 125 lm/W
Input Voltage	: 220-240 V AC
Frequency	: 50-60 Hz
Power Factor	: > 0,9
Surge Transient Protection	: 6 kV
Drive Current	: 1400 mA
Correlated Color Temperature	: 4000K
Color Rendering Index	: >70

* There is ±%10 tolerance in the technical values.

Photometric Curve



Other Features & Conditions

Operating Temperature Range	: -30 °C/+55 °C
Impact Resistance	: IK09
Led Life Time - L70	: > 145.000 hours @Ta= 55 °C

Optional Features

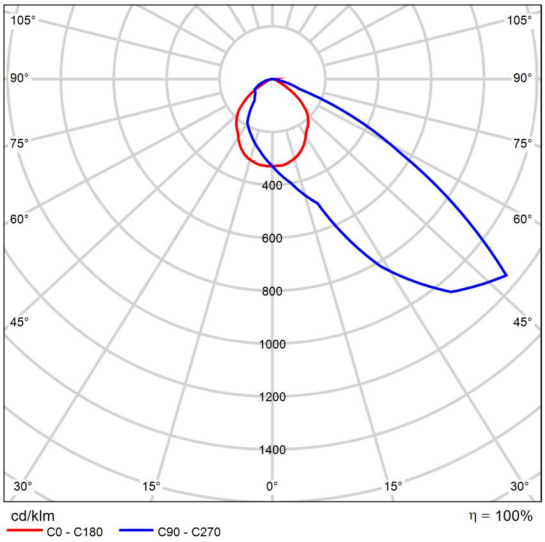
Correlated Color Temperatures	: 3000K, 5700K,6500K
Electronic Control	: Dali
Angle Options	: 16° lens, 27° lens, 52° lens, 98° lens

DIALux

Product data sheet

EAE - 3264003 PRE 536Z 40CM00 AS 69K0 MP

P	538.8 W
Φ_{Lamp}	68988 lm
$\Phi_{Luminaire}$	68776 lm
η	99.69 %
Luminous efficacy	127.6 lm/W
CCT	4592 K
CRI	83



Polar LDC

L'apparecchio ha una curva di distribuzione fotometrica con emissione luminosa limitata all'emisfero inferiore (0°–90°). Pertanto, ULOR (rapporto di emissione luminosa verso l'alto) = 0%.

PROLIT EFFECT

536 W Front and Area LED Lighting Luminaires

Order Code	: 3264003
Product Code	: PRE 536Z 40CM00 0T 69K0 MP

Product Data

Standard Features

Housing	: Aluminium injection housing
Diffuser	: Tempered glass with serigraphy
Optic	: 0 Tilt lens
IP Grade	: IP66
Installation	: Floor Mounted
Light Source	: Mid Power LED

Optical & Electrical Features

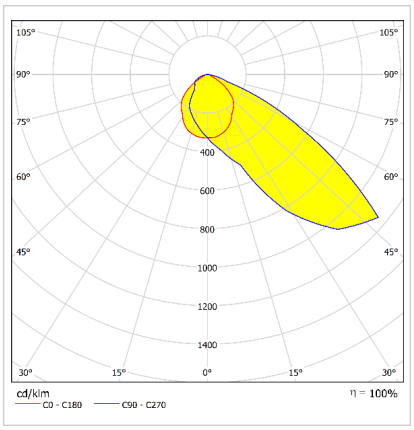
Power Consumption	: 536 W
Final Luminous Flux	: 68988.3 lm
Efficacy	: 128 lm/W
Input Voltage	: 220-240 V AC
Frequency	: 50-60 Hz
Power Factor	: > 0,9
Surge Transient Protection	: 6 kV
Drive Current	: 1350 mA
Correlated Color Temperature	: 4000K
Color Rendering Index	: >80

* There is ±%10 tolerance in the technical values.

Other Features & Conditions

Operating Temperature Range	: -30 °C/+45 °C
Impact Resistance	: IK09
Led Life Time - L70	: > 72.000 hours @Ta= 45 °C

Photometric Curve



Optional Features

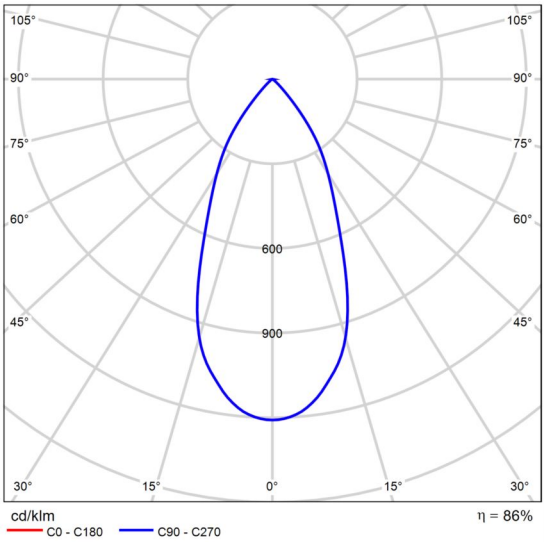
Correlated Color Temperatures	: 3000K, 5700K,6500K
Electronic Control	: Dali
Angle Options	: 23° lens, 30° lens, 46° lens, 60° lens, 90° lens

DIALux

Product data sheet

iGuzzini - Easy - UGR<19 - ø153mm - QF83.39 - Ø 163 mm - neutral white - DALI - UGR<19 - 16.9W 2021lm - 4000K - CRI 90 - White/Aluminium

Article No.	QF83
P	16.9 W
Φ_{Lamp}	2350 lm
$\Phi_{Luminaire}$	2020 lm
η	85.97 %
Luminous efficacy	119.6 lm/W
CCT	3984 K
CRI	90



Direzionalità della luce: C.o.B. La tecnologia e il riflettore metallizzato aiutano a concentrare la luce in una direzione specifica, evitando la dispersione in aree indesiderate.

QF83 :
Round fixed luminaire designed to use LED lamps with C.o.B. technology. Version with rim for surface-mounting. Reflector vacuum-metallised with aluminium vapours with an anti-scratch protective layer. Dissipater made of painted grey die-cast aluminium. Product complete with LED lamp in neutral white colour tone (4000K) . Light beam with UGR<19 L<3000 cd/m2 ideal for environments with video terminals.

QF83.39 - Ø 163 mm - neutral white - DALI - UGR<19 - 16.9W 2021lm - 4000K - CRI 90 - White/Aluminium
B42S - Lamp LED Neutral White CRI>90

Glare evaluation according to UGR

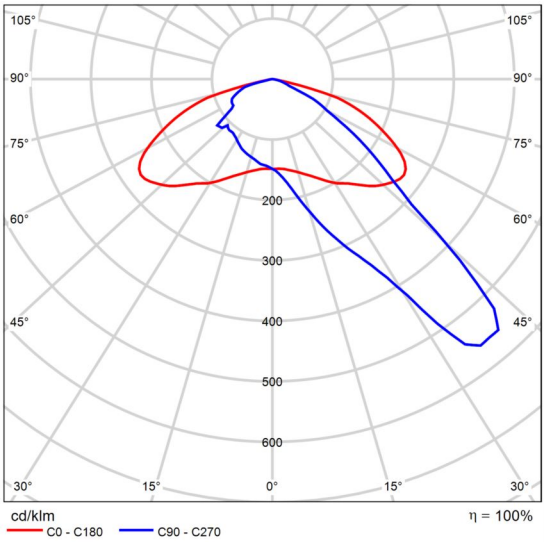
ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	16.9	17.7	17.2	17.9	18.1	16.9	17.7	17.2	17.9	18.1
	3H	16.8	17.5	17.1	17.8	18.0	16.8	17.5	17.1	17.8	18.0
	4H	16.7	17.4	17.0	17.7	17.9	16.7	17.4	17.0	17.7	17.9
	6H	16.6	17.3	17.0	17.6	17.8	16.6	17.3	17.0	17.6	17.8
	8H	16.6	17.2	16.9	17.5	17.8	16.6	17.2	16.9	17.5	17.8
	12H	16.6	17.1	16.9	17.4	17.8	16.6	17.1	16.9	17.4	17.8
4H	2H	16.7	17.4	17.0	17.7	17.9	16.7	17.4	17.0	17.7	17.9
	3H	16.6	17.1	16.9	17.5	17.8	16.6	17.1	16.9	17.5	17.8
	4H	16.5	17.0	16.9	17.3	17.7	16.5	17.0	16.9	17.3	17.7
	6H	16.4	16.9	16.8	17.2	17.6	16.4	16.9	16.8	17.2	17.6
	8H	16.4	16.8	16.8	17.2	17.6	16.4	16.8	16.8	17.2	17.6
	12H	16.3	16.7	16.8	17.1	17.5	16.3	16.7	16.8	17.1	17.5
8H	4H	16.4	16.8	16.8	17.2	17.6	16.4	16.8	16.8	17.2	17.6
	6H	16.3	16.6	16.7	17.0	17.5	16.3	16.6	16.7	17.0	17.5
	8H	16.2	16.5	16.7	17.0	17.4	16.2	16.5	16.7	17.0	17.4
	12H	16.2	16.4	16.7	16.9	17.4	16.2	16.4	16.7	16.9	17.4
12H	4H	16.3	16.7	16.8	17.1	17.5	16.3	16.7	16.8	17.1	17.5
	6H	16.2	16.5	16.7	17.0	17.4	16.2	16.5	16.7	17.0	17.4
	8H	16.2	16.4	16.7	16.9	17.4	16.2	16.4	16.7	16.9	17.4
Variation of the observer position for the luminaire distances S											
S = 1.0H		+4.4 / -15.3					+4.4 / -15.3				
S = 1.5H		+7.2 / -37.6					+7.2 / -37.6				
S = 2.0H		+9.2 / -39.1					+9.2 / -39.1				
Standard table		BK00					BK00				
Correction summand		-2.3					-2.3				
Corrected glare indices referring to 2350lm Total luminous flux											

UGR diagram (SHR: 0.25)

Product data sheet

iGuzzini - Platea Pro - VANO - Optical only

Article No.	P890
P	86.5 W
Φ_{Lamp}	11160 lm
$\Phi_{Luminaire}$	11160 lm
η	100.00 %
Luminous efficacy	129.0 lm/W
CCT	3968 K
CRI	70



Polar LDC

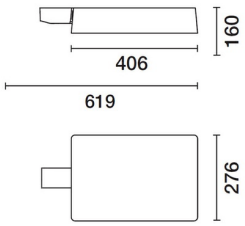
P890 :
Outdoor luminaire with direct light street optic, designed to use LED lamps. The optical assembly is made of EN1706AC 46100LF aluminium alloy and subjected to a multi-step, pre-treatment process, in which the main phases are degreasing, fluorozirconation (a protective surface film) and sealing (with a nano-structured silane layer). The painting stage consists of a primer and an acrylic paint, cured at 150°C, with a high level of weather and UV ray resistance. With a 5 mm thick tempered sodium-calcium glass cover. When pole-mounted the product can be adjusted by +15°/ -5° and +5°/-15 when side-mounted. High visual comfort. Polymer optic lenses offering high yield and even light distribution. Complete with circuit fitted with Neutral White monochrome power LEDs. Extractable control gear connected with quick-coupling connectors. 220-240V ac 50/60Hz DALI electronic ballast. The optical assembly is fixed to the ceiling or pole-top attachment by two fixing screws. The light flow emitted in the upper hemisphere of the system in the horizontal position is null (in conformity with the strictest standards for the prevention of light pollution). All external screws are made of stainless steel.

Platea Pro

Design Jean-Michel Wilmotte | **iGuzzini**

Ultimo aggiornamento delle informazioni: Novembre 2024

Configurazione di prodotto: P890
P890: Sistema da palo - Vano ottico corpo grande - Neutral White - ottica stradale A45



Codice prodotto
P890: Sistema da palo - Vano ottico corpo grande - Neutral White - ottica stradale A45

Descrizione tecnica
Apparecchio di illuminazione per esterni con ottica stradale a luce diretta, finalizzato all'impiego di sorgenti luminose con LED di potenza. Il vano ottico viene realizzato in lega di alluminio EN1706AC 46100LF, e sottoposto a un processo di pretrattamento multi step, in cui le fasi principali sono sgrassaggio, fluorozirconatura (strato protettivo superficiale) e sigillatura (stratonanostrutturato ai silani). La fase di verniciatura è realizzata con primer e vernice acrilica liquida, cotta a 150 °C, che fornisce un'alta resistenza agli agenti atmosferici ed ai raggi UV. Un vetro di chiusura sodico-calcico temprato con uno spessore di 5 mm. Orientabilità del prodotto nell'installazione a testapalo +15°/ -5° e +5°/-15 nell'installazione laterale. Elevato comfort visivo. Lenti ai polimeri ottici ad elevato rendimento ed omogenea distribuzione luminosa. Completo di circuito con led monocromatici di potenza nel colore Neutral White. Gruppo di alimentazione asportabile, collegato con connettori ad innesto rapido. Alimentatore elettronico DALI 220-240Vac 50/60Hz. Il vano ottico è fissato all'attacco applique o testapalo tramite due viti di serraggio. Il flusso luminoso emesso nell'emisfero superiore del Sistema in posizione orizzontale è nullo (in conformità alle più restrittive norme contro l'inquinamento luminoso). Tutte le viti esterne utilizzate sono in acciaio inox.

Installazione
Il proiettore è installabile con montaggio a testapalo in alluminio pressofuso ad attacco singolo doppio per pali ø60/76/102/120mm,triplo ø 102/120 mm. Attacco laterale in alluminio pressofuso per pali a frusta per diametri compresi tra ø 46 e ø76.

Colore
Bianco (01) | Nero (04) | Grigio (15) | Marrone Ruggine (F5)

Peso (Kg)
8.3

Montaggio
ad applique|braccio da palo|palo entrante dal fianco|a testapalo

Cablaggio
Il prodotto è collegato da cavi di rete tramite una morsettiera push in. Resistenza ai picchi di tensione della rete fino a 10KV . La perfetta tenuta stagna del prodotto, nel punto di inserimento del cavo di alimentazione è garantita dal pressacavo in ottone Nichelato idoneo per cavi ø esterno max 16mm(sezione 1,5-2,5mm²).

Soddisfa EN60598-1 e relative note

IK08 IP66

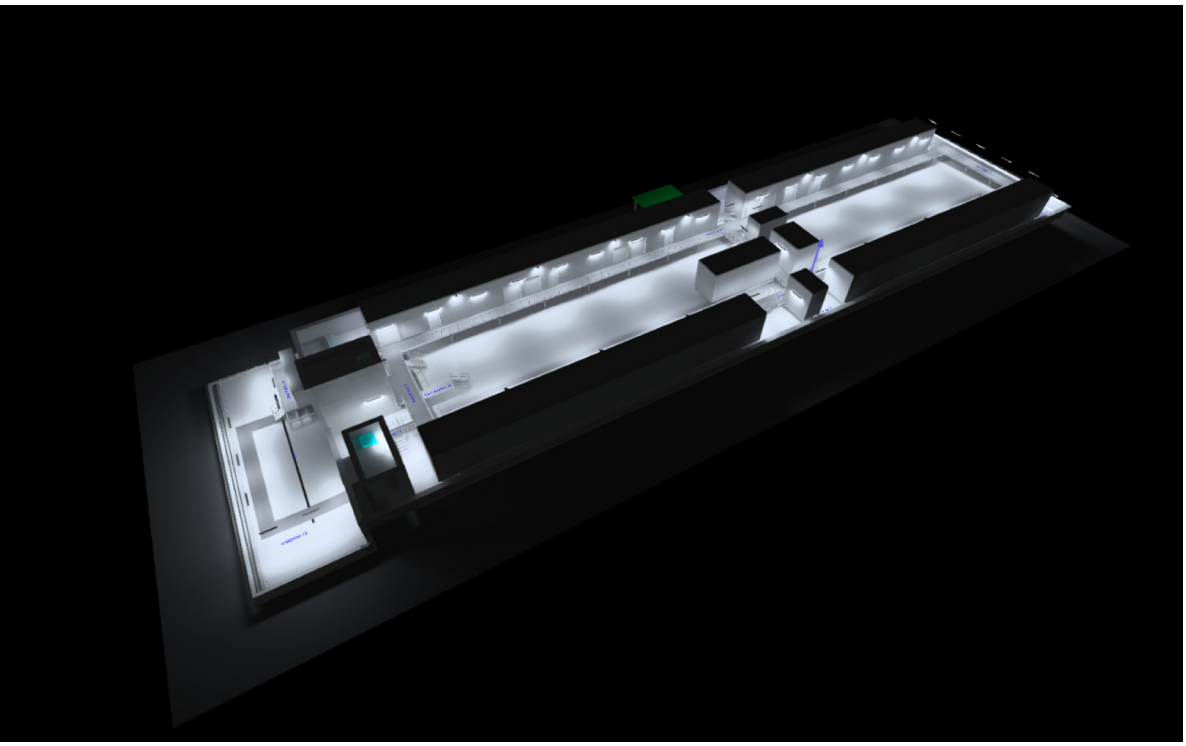
Dati tecnici

Im di sistema:	12180
W di sistema:	86.5
Im di sorgente:	-
W di sorgente:	-
Efficienza luminosa (lm/W, dati di sistema):	140.8
Im in modalità emergenza:	-
Flusso totale emesso a 90° o superiore [Lm]:	0
Light Output Ratio (L.O.R.) [%]:	100
CRI (minimo):	70
Temperatura colore [K]:	4000
MacAdam Step:	5
Life Time LED 1:	100,000h - L90 - B10 (Ta 25°C)

Life Time LED 2:	100,000h - L90 - B10 (Ta 40°C)
Codice lampada:	LED
Numero di lampade per vano ottico:	1
Codice ZVEI:	LED
Numero di vani ottici:	1
Intervallo temperatura ambiente operativa:	da -40°C a 50°C.
Power factor:	Vedi istruzioni di installazione
Corrente di spunto (in-rush):	102 A / 106 µs
Massimo numero di apparecchi collegabili a ogni interruttore automatico:	B10A: 7 apparecchi B16A: 12 apparecchi C10A: 12 apparecchi C16A: 20 apparecchi
% minima di dimmerazione:	10
Protezione alle sovratensioni:	10kV Modo comune e 6kV Modo differenziale
Control:	DALI-2

L'apparecchio ha una curva di distribuzione fotometrica con emissione luminosa limitata all'emisfero inferiore (0°–90°). Pertanto, ULOR (rapporto di emissione luminosa verso l'alto) = 0%.

Date 12/09/2024

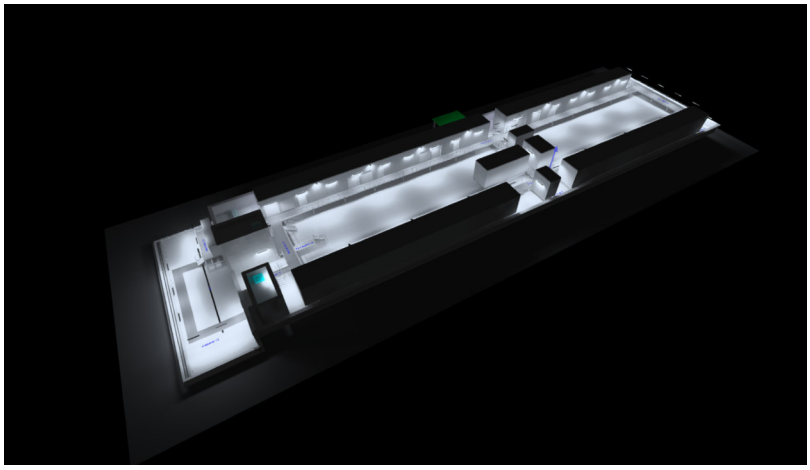


ML11x - Roof Lighting Calculations

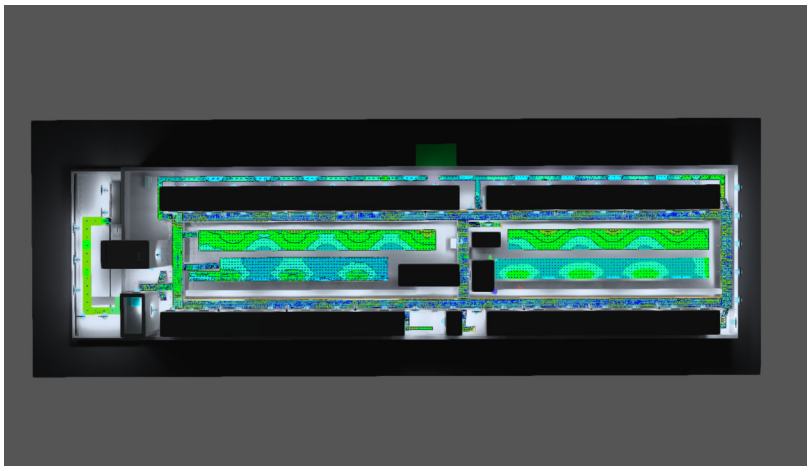
Created with DIALux

Images

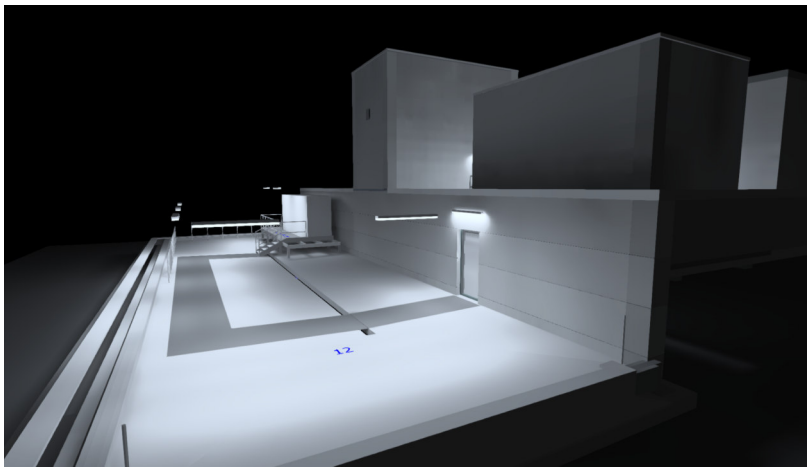
DC ML11 Roof Cover



DC ML11 Copertura - Calculations

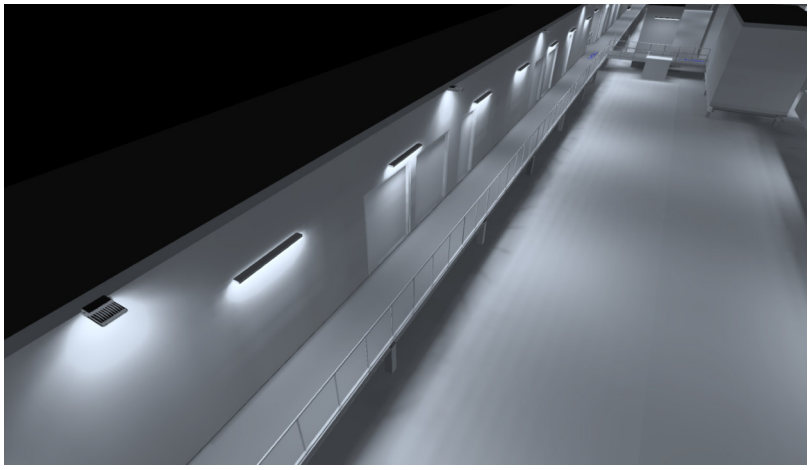


M09 FoH Roof - Detail

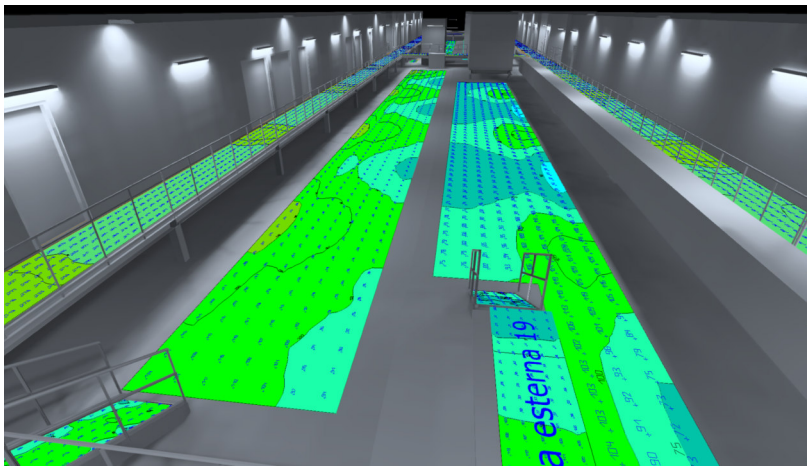


Images

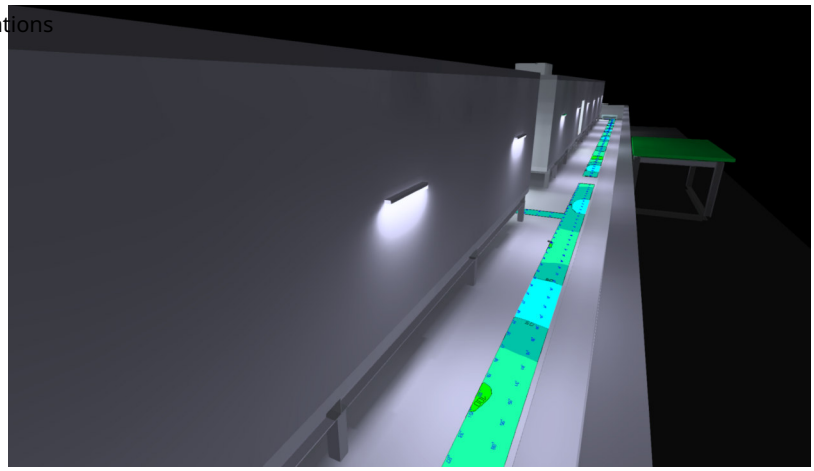
DC ML11 Roof Detail 02



DC ML11 Roof Detail - Calculation



DC ML11 Roof Detail Back Technical Rooms - Calculations



Luminaire list

Φ_{total}	P_{total}	Luminous efficacy	$\Phi_{Emergency\ lighting}$	$P_{Emergency\ lighting}$
817897 lm	5397.5 W	151.5 lm/W	77206 lm	526.9 W

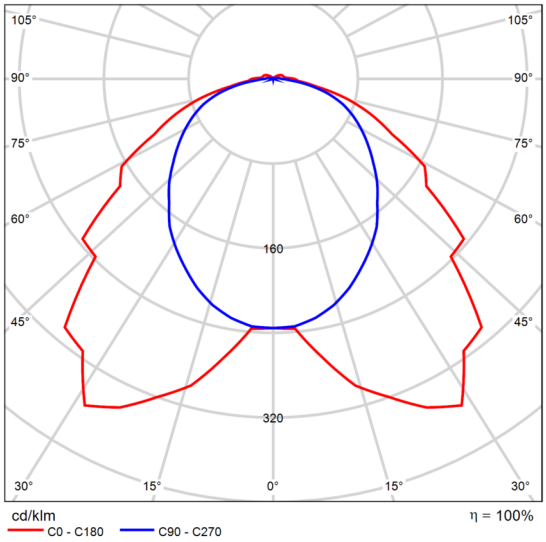
pcs.	Manufacturer	Article No.	Article name	P	Φ	Luminous efficacy
58	3F Filippi S.p.A.	58554	3F Linda LED 2x30W DALI L1570	66.0 W	9715 lm	147.2 lm/W
				3.3 W	486 lm (5 %)	–
4	3F Filippi S.p.A.	58554	3F Linda LED 2x30W DALI L1570	66.0 W	9715 lm	147.2 lm/W
				66.0 W	9715 lm (100 %)	–
11	3F Filippi S.p.A.	58551	3F Linda LED 1x24W DALI L1270	28.0 W	4065 lm	145.2 lm/W
				2.0 W	285 lm (7 %)	–
14	Disano Illuminazione S.p.A	414754-00	1887 Rodio LED - asymmetric 4000K CRI 80 53W CLD Graphite	53.0 W	9678 lm	182.6 lm/W
4	EAE		3298075 TRD 034U 40OD00 4K88 120 66 ELP	33.8 W	4892 lm	144.7 lm/W
				2.4 W	342 lm (7 %)	–
1	EAE		3298075 TRD 034U 40OD00 4K88 120 66 ELP	33.8 W	4892 lm	144.7 lm/W
				33.8 W	4892 lm (100 %)	–
1	iGuzzini	P886	Platea Pro - VANO - Optical only	86.5 W	10900 lm	126.0 lm/W
				6.1 W	763 lm (7 %)	–

DIALux

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 1x24W DALI L1270

Article No.	58551
P	28.0 W
$P_{Emergency\ lighting}$	2.0 W
Φ_{Lamp}	4065 lm
$\Phi_{Luminaire}$	4065 lm
$\Phi_{Emergency\ lighting}$	285 lm
η	100.00 %
Luminous efficacy	145.2 lm/W
CCT	4000 K
CRI	80
ELF	7 %



Polar LDC

Glare evaluation according to UGR											
ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	19.2	20.5	19.5	20.8	21.2	19.1	20.4	19.4	20.7	21.0
	3H	20.3	21.5	20.6	21.8	22.2	20.5	21.7	20.9	22.1	22.4
	4H	20.7	21.8	21.1	22.2	22.6	21.1	22.3	21.5	22.6	23.0
	6H	20.9	22.0	21.3	22.4	22.7	21.6	22.7	22.0	23.0	23.4
	8H	21.0	22.0	21.4	22.4	22.8	21.7	22.8	22.1	23.1	23.5
	12H	21.0	22.0	21.4	22.4	22.8	21.8	22.8	22.2	23.2	23.6
4H	2H	19.7	20.9	20.1	21.3	21.6	19.7	20.8	20.1	21.2	21.5
	3H	21.0	22.0	21.4	22.4	22.8	21.3	22.3	21.7	22.7	23.1
	4H	21.5	22.4	22.0	22.8	23.3	22.0	22.9	22.5	23.3	23.8
	6H	21.8	22.6	22.3	23.1	23.5	22.6	23.4	23.1	23.8	24.3
	8H	21.9	22.7	22.4	23.1	23.6	22.8	23.5	23.3	24.0	24.5
	12H	22.0	22.7	22.5	23.1	23.7	23.0	23.6	23.5	24.1	24.6
8H	4H	21.7	22.5	22.2	22.9	23.4	22.2	22.9	22.7	23.4	23.9
	6H	22.2	22.8	22.7	23.3	23.8	22.9	23.5	23.4	24.0	24.5
	8H	22.3	22.9	22.9	23.4	23.9	23.2	23.7	23.7	24.2	24.8
	12H	22.5	22.9	23.0	23.5	24.0	23.4	23.9	24.0	24.4	25.0
12H	4H	21.7	22.4	22.2	22.9	23.4	22.2	22.9	22.7	23.3	23.8
	6H	22.2	22.8	22.8	23.3	23.8	22.9	23.5	23.5	24.0	24.5
	8H	22.4	22.9	23.0	23.4	24.0	23.3	23.7	23.8	24.2	24.8
Variation of the observer position for the luminaire distances S											
S = 1.0H		+0.2 / -0.3					+0.2 / -0.2				
S = 1.5H		+0.4 / -0.6					+0.6 / -0.7				
S = 2.0H		+0.8 / -1.1					+0.7 / -1.1				
Standard table		BK04					BK06				
Correction summand		4.8					6.3				
Corrected glare indices referring to 4065lm Total luminous flux											

UGR diagram (SHR: 0.25)

ILLUMINOTECHNICAL
Luminous efficiency 100% (DLOR 97%, ULOR 3%).
Initial luminous flux of the luminaire 4065 lm.
Controlled symmetric distribution.
Installation Interdistance Transv.D = 1.77 x hu - Long.D = 1.17 x hu.
Tabular UGR (CIE 117 - 4H-8H; S=0.25H; 70/50/20): RUG 22 - 22.9.
Beam angle: 109° - 64°.
Luminous efficacy 145 lm/W.
Lifetime (L93/B10): 30000 h. (tq+25°C)
Lifetime (L90/B10): 50000 h. (tq+25°C)
Lifetime (L85/B10): 80000 h. (tq+25°C)
Lifetime (L80/B10): 100000 h. (tq+25°C)
Lifetime (L85/B10): 50000 h. (tq+35°C)
Sudden decreased luminous flux after 50000 hours: 0% (C0).
Photobiological safety in compliance with IEC/TR 62778: RG0 risk exempt, (IEC 62471).

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 1x24W DALI L1270

In compliance with IEC/EN 62722-2-1 - IEC/EN 62717 standards.

SOURCE
Linear LED module 24W/840.
Energy efficiency class (UE 2019/2020 - UE 2019/2015): D.
CIE 13.3 Colour rendering index: CRI >80 (R9 <50%).
IES TM-30 Fidelity Index: Rf = 84 Rg = 95.
CCT nominal colour temperature 4000 K.
Colour initial tolerance (MacAdam): SDCM 3.

MECHANICAL
Self-extinguishing V2 polycarbonate housing, injection moulded, RAL 7035 grey.
Ecologic anti-aging injected sealing gasket.
Diffuser in self-extinguishing V2 polycarbonate, photo-engraved interior, UV stabilised, injection moulded with smooth outer surface, tamper-proof opening.
Gear-holder reflector in hot-dip galvanised steel, painted with white polyester base.
Snug fit safety snap-lock clips for diffuser mounting in stainless steel, screwdriver opening.
Fixing brackets in stainless steel.
Possibility for technicians to access the interior of the luminaire.
Luminaire with limited surface temperature. - D - (EN 60598-2-24)
Dimensions: 1270x100 mm, height 100 mm. Weight 2.085 kg.
IP66 protection degree.
Mechanical strength to impacts IK10 (20 joule).
Glow-wire test resistance 850°C.

ELECTRICAL
Halogen Free DALI, PUSH-DIM, electronic wiring 230V-50/60Hz, power factor 0.90 at full load, THD <25%, constant output current, SELV, class I, 1 driver, 1 DALI addresse.
Power of the luminaire 28 W.
ENEC - CE.
SAFE FLICKER: PstLM=<1 and SVM=<0.4 (IEC TR 61547-1 and IEC TR 63158), to ensure a more comfortable and safe light.
Luminaire compliant with EN 60598-2-22 for power supply from a centralised emergency system CPSS (Central Power Supply System), not incorporated in the luminaire - high risk areas excluded. The default power and flux are 100% in AC and 15% in DC.
Ambient temperature from -20°C to +35°C.
Temperature class T6 max 85°C.
Relative humidity UR: <85%.

INSTALLATION
Ceiling / Suspended / Wall.
All accessories dedicated to this product are available on the Catalog and on our website www.3F-Filippi.com.

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 1x24W DALI L1270

APPLICATIONS
Suitable product for food production plants (HACCP), IFS (Food Version 6), BRC (GSFS Food Version 7).
Dry, dusty indoor environments, subject to occasional water splashes.
Virtually shatterproof polycarbonate compatibly with the fumes / atmospheres that compromise the elasticity of plastic materials.
Not suitable for installation on surfaces subject to important vibrations, exposed to weather conditions, on ropes or poles.
Suitable for illumination of public car parks and parking grounds referred to DIN 67528:2018-04.

LIGHT MANAGEMENT
Recommended minimum setting: 10%.
The device, equipped with DALI driver, can be controlled manually with 3F Easy Dim technology or automatically/manually with 3F Smart Dimming technology and/or centralised DALI systems.
In electrical systems without a regulation system (manual or automatic) and DALI bus, a suitable jumper must be made on the DA-DA terminals of the appliance.

WARNING
Fixture not suitable for cold stores with an ambient temperature <0° C and/or relative humidity >85%.
Luminaire designed for disposal/recycling at end-of-life.
Replaceable (LED only) light source by a professional. Replaceable control gear by a professional.

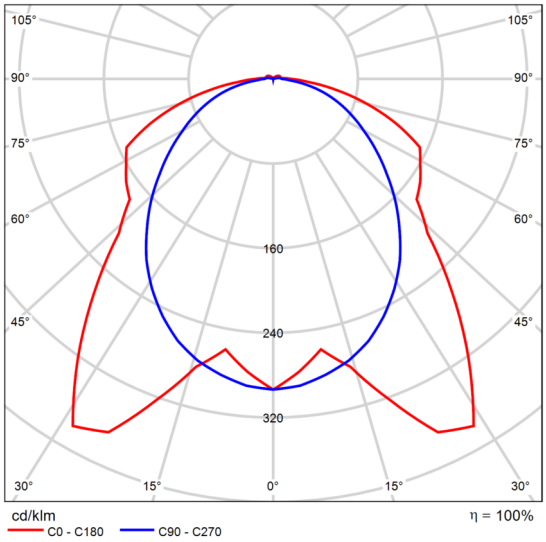
γ	C0°	C90°	C0°- C360°
0°-180°	1448.03	957.06	1452.63
60°-90°	671.90	392.11	690.24

Glare valuation table [cd]

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 2x30W DALI L1570

Article No.	58554
P	66.0 W
$P_{Emergency\ lighting}$	3.3 W
Φ_{Lamp}	9715 lm
$\Phi_{Luminaire}$	9715 lm
$\Phi_{Emergency\ lighting}$	486 lm
η	100.00 %
Luminous efficacy	147.2 lm/W
CCT	4000 K
CRI	80
ELF	5 %



Polar LDC

Glare evaluation according to UGR

ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	19.9	21.3	20.3	21.6	21.9	19.8	21.2	20.2	21.5	21.8
	3H	21.8	23.0	22.2	23.4	23.7	21.2	22.4	21.5	22.7	23.1
	4H	22.5	23.7	22.9	24.0	24.4	21.7	22.9	22.1	23.2	23.6
	6H	23.0	24.1	23.4	24.5	24.8	22.1	23.2	22.5	23.6	24.0
	8H	23.2	24.2	23.6	24.6	25.0	22.3	23.3	22.7	23.7	24.1
	12H	23.3	24.3	23.7	24.6	25.0	22.4	23.4	22.8	23.8	24.2
4H	2H	20.5	21.7	20.9	22.0	22.4	20.4	21.6	20.8	21.9	22.3
	3H	22.6	23.6	23.0	24.0	24.4	22.0	23.0	22.4	23.4	23.8
	4H	23.5	24.4	23.9	24.8	25.2	22.7	23.6	23.1	24.0	24.4
	6H	24.1	24.9	24.6	25.3	25.8	23.3	24.1	23.7	24.5	24.9
	8H	24.3	25.0	24.8	25.5	26.0	23.5	24.2	23.9	24.6	25.1
	12H	24.4	25.1	24.9	25.6	26.1	23.6	24.3	24.1	24.7	25.2
8H	4H	23.7	24.5	24.2	24.9	25.4	23.0	23.8	23.5	24.2	24.7
	6H	24.5	25.1	25.0	25.6	26.1	23.7	24.4	24.2	24.8	25.3
	8H	24.8	25.4	25.3	25.9	26.4	24.0	24.6	24.6	25.1	25.6
	12H	25.0	25.5	25.6	26.0	26.6	24.3	24.7	24.8	25.3	25.8
12H	4H	23.7	24.4	24.2	24.9	25.4	23.1	23.7	23.6	24.2	24.7
	6H	24.6	25.1	25.1	25.6	26.2	23.8	24.4	24.4	24.9	25.4
	8H	24.9	25.4	25.5	25.9	26.5	24.2	24.6	24.7	25.2	25.7
Variation of the observer position for the luminaire distances S											
S = 1.0H		+0.2 / -0.2					+0.2 / -0.2				
S = 1.5H		+0.2 / -0.3					+0.6 / -0.6				
S = 2.0H		+0.2 / -0.5					+0.7 / -1.1				
Standard table		BK06					BK06				
Correction summand		7.6					7.1				
Corrected glare indices referring to 9715lm Total luminous flux											

UGR diagram (SHR: 0.25)

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 2x30W DALI L1570

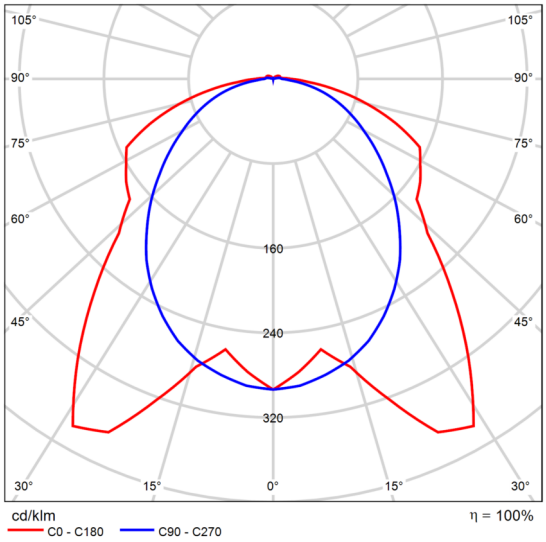
γ	C0°	C90°	C0°- C360°
0°-180°	3679.54	2852.06	3679.54
60°-90°	1558.31	966.14	1558.31

Glare valuation table [cd]

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 2x30W DALI L1570

Article No.	58554
P	66.0 W
$P_{Emergency\ lighting}$	66.0 W
Φ_{Lamp}	9715 lm
$\Phi_{Luminaire}$	9715 lm
$\Phi_{Emergency\ lighting}$	9715 lm
η	100.00 %
Luminous efficacy	147.2 lm/W
CCT	4000 K
CRI	80
ELF	100 %



Polar LDC

Glare evaluation according to UGR

ρ Ceiling		70	70	50	50	30	70	70	50	50	30
ρ Walls		50	30	50	30	30	50	30	50	30	30
ρ Floor		20	20	20	20	20	20	20	20	20	20
Room size X	Y	Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	19.9	21.3	20.3	21.6	21.9	19.8	21.2	20.2	21.5	21.8
	3H	21.8	23.0	22.2	23.4	23.7	21.2	22.4	21.5	22.7	23.1
	4H	22.5	23.7	22.9	24.0	24.4	21.7	22.9	22.1	23.2	23.6
	6H	23.0	24.1	23.4	24.5	24.8	22.1	23.2	22.5	23.6	24.0
	8H	23.2	24.2	23.6	24.6	25.0	22.3	23.3	22.7	23.7	24.1
	12H	23.3	24.3	23.7	24.6	25.0	22.4	23.4	22.8	23.8	24.2
4H	2H	20.5	21.7	20.9	22.0	22.4	20.4	21.6	20.8	21.9	22.3
	3H	22.6	23.6	23.0	24.0	24.4	22.0	23.0	22.4	23.4	23.8
	4H	23.5	24.4	23.9	24.8	25.2	22.7	23.6	23.1	24.0	24.4
	6H	24.1	24.9	24.6	25.3	25.8	23.3	24.1	23.7	24.5	24.9
	8H	24.3	25.0	24.8	25.5	26.0	23.5	24.2	23.9	24.6	25.1
	12H	24.4	25.1	24.9	25.6	26.1	23.6	24.3	24.1	24.7	25.2
8H	4H	23.7	24.5	24.2	24.9	25.4	23.0	23.8	23.5	24.2	24.7
	6H	24.5	25.1	25.0	25.6	26.1	23.7	24.4	24.2	24.8	25.3
	8H	24.8	25.4	25.3	25.9	26.4	24.0	24.6	24.6	25.1	25.6
	12H	25.0	25.5	25.6	26.0	26.6	24.3	24.7	24.8	25.3	25.8
12H	4H	23.7	24.4	24.2	24.9	25.4	23.1	23.7	23.6	24.2	24.7
	6H	24.6	25.1	25.1	25.6	26.2	23.8	24.4	24.4	24.9	25.4
	8H	24.9	25.4	25.5	25.9	26.5	24.2	24.6	24.7	25.2	25.7
Variation of the observer position for the luminaire distances S											
S = 1.0H		+0.2 / -0.2					+0.2 / -0.2				
S = 1.5H		+0.2 / -0.3					+0.6 / -0.6				
S = 2.0H		+0.2 / -0.5					+0.7 / -1.1				
Standard table		BK06					BK06				
Correction summand		7.6					7.1				
Corrected glare indices referring to 9715lm Total luminous flux											

UGR diagram (SHR: 0.25)

Product data sheet

3F Filippi S.p.A. - 3F Linda LED 2x30W DALI L1570

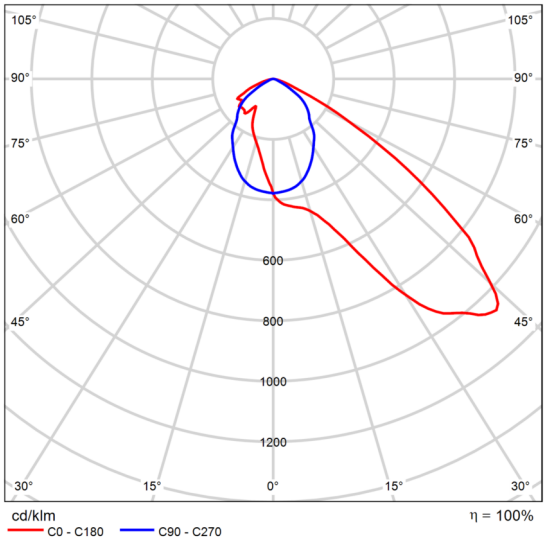
γ	C0°	C90°	C0°- C360°
0°-180°	3679.54	2852.06	3679.54
60°-90°	1558.31	966.14	1558.31

Glare valuation table [cd]

Product data sheet

Disano Illuminazione S.p.A - 1887 Rodio LED - asymmetric 4000K CRI 80 53W CLD Graphite

Article No.	414754-00
P	53.0 W
Φ_{Lamp}	9679 lm
$\Phi_{Luminaire}$	9678 lm
η	99.99 %
Luminous efficacy	182.6 lm/W
CCT	4000 K
CRI	80



Polar LDC

Housing: in die-cast aluminium with cooling fins integrated in the cover.Optics: in high-performance PMMA resistent to high temperatures and UV rays.Diffuser: tempered glass, 5 mm thick, resistant to thermal shock and impact (UNI EN 12150-1:2001).Coating: pre-treatment of metal surface, polyester powder coating to ensure resistance to corrosion and salt spray fogs, UV stabilised.Special coating: - surface coating in compliance with UNI EN ISO 9227 (Corrosion tests in agressive artificial atmospheres) - conformal coating compliant, subcode -38 with high chemical resistance for environments with a high concentration of chlorineHeat Sink: the heat sink is designed and made to allow the LEDs to operate at temperatures capable of ensuring excellent performance/output and long service life.Low flicker: luminaire with very low flicker: evenly distributed light for greater visual safety.Photobiological risk: exempt risk group according to EN62471.: EN60598-1. With degree of protection according to EN60529.Equipment: - with galvanised and painted bracket - IP68 quick connector - EN 61547 compliant surge protection - anti-condensation valve - silicone rubber gasket - external screws and bolts in stainless steelOn request: - protection of up to 10kV. Virtual midnight (subcode -30) - amber LED (subcode -73 - 2200K) - possibility of central light management or with external

Product data sheet

Disano Illuminazione S.p.A - 1887 Rodio LED - asymmetric 4000K CRI 80 53W CLD Graphite

presence/light sensors. special version (with conformal coating treatment with subcode -38) featuring high chemical resistance for environments with high chlorine content.

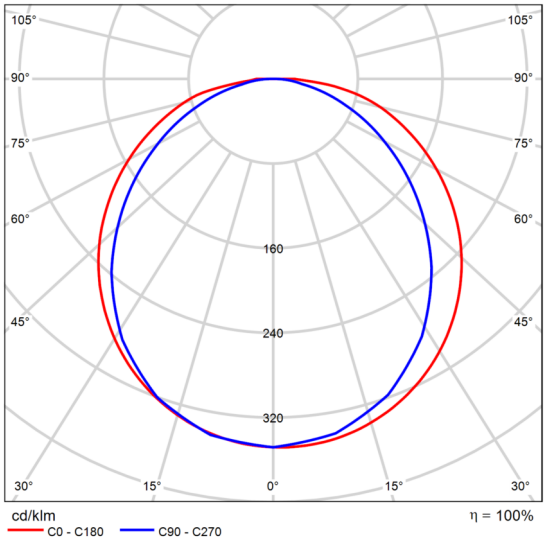
Product data sheet

EAE - 3298075 TRD 034U 40OD00 4K88 120 66 ELP

P	33.8 W
$P_{Emergency\ lighting}$	2.4 W
Φ_{Lamp}	4887 lm
$\Phi_{Luminaire}$	4892 lm
$\Phi_{Emergency\ lighting}$	342 lm
η	100.11 %
Luminous efficacy	144.7 lm/W
CCT	3926 K
CRI	82
ELF	7 %

γ	C0°	C90°	C0°- C360°
0°-180°	1701.16	1701.16	1701.16
60°-90°	887.97	605.01	887.97

Glare valuation table [cd]



Polar LDC

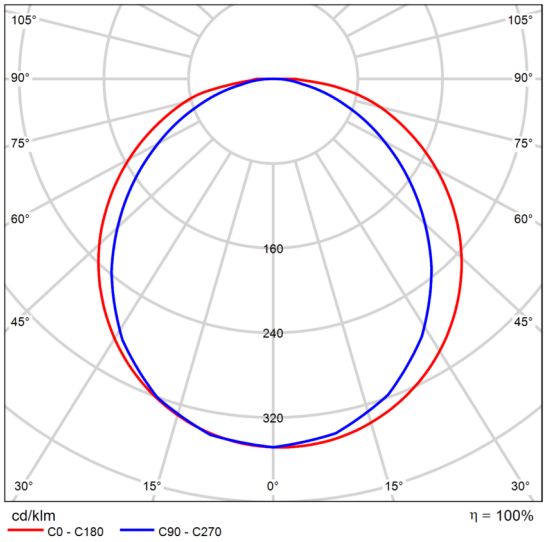
Product data sheet

EAE - 3298075 TRD 034U 40OD00 4K88 120 66 ELP

P	33.8 W
$P_{Emergency\ lighting}$	33.8 W
Φ_{Lamp}	4887 lm
$\Phi_{Luminaire}$	4892 lm
$\Phi_{Emergency\ lighting}$	4892 lm
η	100.11 %
Luminous efficacy	144.7 lm/W
CCT	3926 K
CRI	82
ELF	100 %

γ	C0°	C90°	C0°- C360°
0°-180°	1701.16	1701.16	1701.16
60°-90°	887.97	605.01	887.97

Glare valuation table [cd]

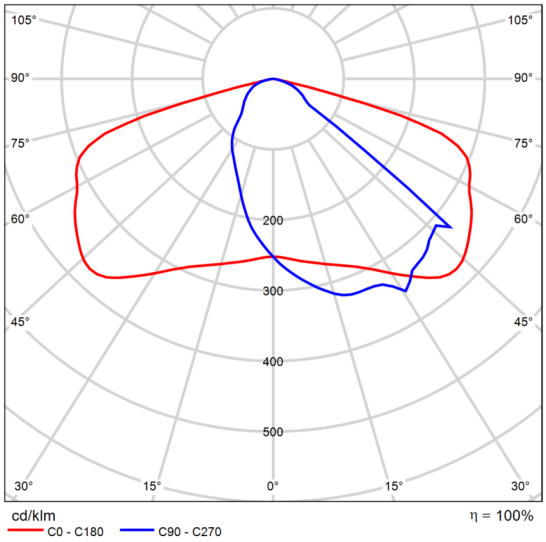


Polar LDC

Product data sheet

iGuzzini - Platea Pro - VANO - Optical only

Article No.	P886
P	86.5 W
$P_{Emergency\ lighting}$	6.1 W
Φ_{Lamp}	10900 lm
$\Phi_{Luminaire}$	10900 lm
$\Phi_{Emergency\ lighting}$	763 lm
η	100.00 %
Luminous efficacy	126.0 lm/W
CCT	3968 K
CRI	70
ELF	7 %



Polar LDC

P886 :
Outdoor luminaire with direct light street optic, designed to use LED lamps. The optical assembly is made of EN1706AC 46100LF aluminium alloy and subjected to a multi-step, pre-treatment process, in which the main phases are degreasing, fluorozirconation (a protective surface film) and sealing (with a nano-structured silane layer). The painting stage consists of a primer and an acrylic paint, cured at 150°C, with a high level of weather and UV ray resistance. With a 5 mm thick tempered sodium-calcium glass cover. When pole-mounted the product can be adjusted by +15°/ -5° and +5°/-15 when side-mounted. High visual comfort. Polymer optic lenses offering high yield and even light distribution. Complete with circuit fitted with Neutral White monochrome power LEDs. Extractable control gear connected with quick-coupling connectors. 220-240V ac 50/60Hz DALI electronic ballast. The optical assembly is fixed to the ceiling or pole-top

Product data sheet

iGuzzini - Platea Pro - VANO - Optical only

attachment by two fixing screws. The light flow emitted in the upper hemisphere of the system in the horizontal position is null (in conformity with the strictest standards for the prevention of light pollution). All external screws are made of stainless steel.

VANO - Optical only
P886.15 - Pole-mounted system - Large body optical assembly - Neutral White - ST1 street optic. - 86.5W 10900lm - 4000K - Grey
A03J - Lamp LED Neutral White

γ	C0°	C90°	C0°- C360°
0°-180°	4068.64	3715.48	8994.03
60°-90°	3498.03	534.12	8994.03

Glare valuation table [cd]